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AUTHOR Green, Asa N.; Patrenos, James H.
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ABSTRACT

A program that includes teaching and learning theory in a realistically applied teaching-learning process for prospective elementary school teachers is described. Student teachers are required to participate in interaction seminars where theories of teaching and learning and their application are presented, discussed, and analyzed. In a laboratory setting, the professional staff demonstrates various teaching strategies through simulation, films, or video tapes of real instruction in process. The elementary teacher education students develop plans and instructional activities and, following this, teach the children for whom they have planned and developed these activities. Their performance is videotaped and analyzed by their peers and professors. The following skills are required to be demonstrated: (1) personal effectiveness skills; (2) student assessment skills; (3) instructional planning skills; (4) instructional management skills; and (5) interaction with students' skills. (JD)

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Performance Based

Elementary Teacher Education

Livingston University
Livingston, Alabama

Asa N. Green, President
James H. Patrenos, Dean and Chief
Institutional Representative
F. Wayne Smith, Divisional Chairperson

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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SUMMARY

Performance Based Elementary Teacher Education

Early in the seventies Livingston University located in rural west central Alabama implemented its model of Performance Based Education. Though it has done little to change the general education component in Teacher Education, the revolutionary approaches to the professional preparatory process brought on by the national movement and the demand for accountability continue to influence the professional development component. Prospective elementary teachers are required to participate in interaction seminars where theories of teaching and learning and their application are discussed and analyzed, where the professional staff demonstrate various teaching strategies through simulation, films or video tapes of real instruction in process, and where the student preparing to teach may work with peers and the professional staff member in cooperative group planning and learning experiences.

Two days each week for two consecutive quarters, the prospective elementary teachers develop plans and instructional activities for children in the public schools of the area served by the school. For a minimum of 70 hours during two academic quarters, the students in elementary education actually teach the children for whom they have planned and developed instructional activities. Video tapes of the instructional process utilized by each student are made. Those tapes and plans are brought back to the university campus and systematically critiqued by the teacher in training, a small

group of his peers, and a member of the elementary education professional staff.

Integration of the curricular areas in the laboratory program is stressed in an attempt to emphasize the total learning needs of children rather than isolated concepts and skills. Cooperative planning and guidance by the elementary education staff is reflected in the program. Teacher roles and responsibilities are identified in the instructional modules, along with several suggested learning alternatives through which the student teacher may develop specified skills. Continuous formative evaluation is conducted cooperatively among the professional staff and the individual teacher trainees, enabling each trainee's strengths to be reinforced and his recognized deficiencies to be remedied prior to the student teaching experience. It is believed that this preparatory process allows the student to develop teaching competencies in accordance with the spiral learning theory. Since each student has experimented with and defined his teaching style prior to the student teaching quarter, his student teaching experience serves as a reinforcing and refining experience for the instructional skills he has already acquired.

TABLE OF CONTENTS

Page

Program Development 1

The Program 2

Organization and Administration of the Professional Studies Component. 4

Figure 1 (Teaching-Learning Theory Laboratory and Practicums). 5

Figure 2 (Typical Weekly Schedule-Teaching-Learning Laboratory Component). 5

Objectives and Goals. 6

Evaluation. 8

Personnel Involved. 9

Budget 1978-79. 11

Contribution to Teacher Education 12

Appendices:

A. Laboratory Calendar

B. Laboratory Modules

Performance Based Elementary Teacher Education
Livingston University

DESCRIPTION AND ANALYSIS

Program Development

As in the case of other teacher education institutions, Livingston University passed through stages from a dedicated commitment to PBTE to a more cautious approach. After considerable study of the major models which had been developed, the education faculty recognized that none of those models nor any of their components could be directly utilized. The institution developing a PBTE program, through necessity, would have to study its own resources and develop its own conceptual model.

The Livingston faculty devoted considerable time to the development of its model through faculty participation in in-service, workshops, and work conferences on campus with state and local educators. The initial model was built around isolated teacher skills. The prospective teacher could elect to learn and demonstrate any skill he chose at any time in his program. A pilot implementation project in the summer of 1970 disclosed that too much emphasis was being placed on isolated teaching skills, and not nearly enough emphasis was placed on teaching and learning theory and higher level cognitive and affective levels of learning.

After evaluating the pilot project, the division of Elementary Education decided to take what it had learned from its experience

with the initial model and what it knew of the Traditional Teacher Education (TTE) program and design a model which contained those elements considered to be effective in the pilot test as well as those elements of the TTE program which are invaluable to the appropriate preparation of preservice elementary teachers.

The Program

The approach was to identify the instructional tasks of the elementary teacher and to provide, by simulation or real situation, an experiential activity through which the novice elementary teacher might develop the desired teacher behaviors or task proficiency. A broader more comprehensive program which included more teaching and learning theory in a realistically applied teaching-learning process was designed.

The implementation of PBTE has done little to change the general education component. The major innovations have been in the preparatory processes applied to the professional education components (Humanistic and Behavioral Studies, Teaching and Learning Theory, and the Practicum). Prospective elementary teachers are required to participate in interaction seminars where theories of teaching and learning and their application are presented, discussed, and analyzed. In a laboratory setting, the professional staff demonstrates various teaching strategies through simulation, films, or video tapes of real instruction in process. In the laboratory, the student preparing to teach works with his peers and the professional staff in cooperative group planning, instructional, and evaluative experiences.

Two days each week for two consecutive quarters, the elementary teacher education student develops plans and instruc-

tional activities for children in the public schools of the area served by Livingston University. For a minimum of 70 hours during two academic quarters, the students in the elementary teacher education program actually teach the children for whom they have planned and developed instructional activities. Video tapes of the instructional process utilized by each student are made. The tapes and plans are brought back to campus where they are systematically critiqued by the teacher in training, a small group of his peers, and at least one member of the elementary education professional staff.

Integration of the curricular areas in the laboratory program is stressed in an attempt to emphasize the total learning needs of children rather than isolated concepts and skills. Cooperative planning and guidance by the elementary education staff is reflectdd in the organization and administration of the program. Teacher roles and responsibilities are identified in the instructional modules along with several suggested learning alternatives through which the student in training may develop specified skills and/or cognate understanding. Instructional modules are provided early in the laboratory experience in order that the student may have some flexibility relative to his learning style and rate and may pace himself accordingly.

Continuous formative evaluation is conducted cooperatively among the professional staff and the individual teacher trainees, enabling each trainee's strengths to be reinforced and his recognized deficiences to receive remediation prior to the student teaching experience. It is the philosophy of the professional staff that this preparatory process allows the student to develop

teaching competencies in accordance with the spiral learning theory. Since each student has experimented with and defined his teaching style prior to the student teaching quarter, his student teaching experience serves as a reinforcing and refining experience for the instructional skills he has already acquired.

A September Experience, though not required, is strongly encouraged. It is designed to give sophomore, junior, or senior students an opportunity to participate in "opening" school at the beginning of a new term. The student receives no college credit but usually spends five to ten days in this experience.

Organization and Administration of the Professional Studies Component

The Humanistic and Behavioral studies component is usually completed during the junior year. This component consists of Human Growth and Development, Education Psychology, and History, Philosophy, and Foundations of Education. These studies are considered introductory and pre-requisite to the Teaching-Learning Laboratory component. The studies in psychology and foundations require some contact with the public school and pupils in school mostly through case studies and observation.

The Teaching-Learning Laboratories and the student teaching practicum are usually during the teacher trainee's last three quarters or constitutes his senior year. (See figure 1.)

For two consecutive quarters prior to student teaching, the elementary major is enrolled for a five credit hour experience in the teaching of reading and a ten credit hour experience in methods and materials of instruction for elementary teachers which is referred to as Elementary Education Laboratory. (See figure 2.)

Figure 1

Senior Year

Teaching-Learning Theory Laboratory and Practicums

1st Quarter	2nd Quarter	3rd Quarter
Reading I (5 quarter hours)	Reading II (5 quarter hours)	Student Teaching in the Elementary School (15 quarter hours)
Laboratory I (10 quarter hours	Laboratory II (10 quarter hours)	Full-Time in Schools

Figure 2

Typical Weekly Schedule-Teaching-Learning Laboratory Component

Monday	Tuesday	Wednesday	Thursday	Friday
9:00-Reading Seminar Class 10:00-12:00-Individual and Group Planning and Study 1:00-3:00-Laboratory Group Meetings	8:00-3:00-In School Practicums-Tutoring Children and Assisting Teachers with Routine Responsibilities Tutoring in Reading Required	9:00-Reading Seminar Class 10:00-12:00-Individual and Group Planning and Study 1:00-3:00-Laboratory Large/Small Group Activities/ Demonstration Teaching	8:00-3:00-In School Practicums-Tutoring Children and Assisting Teachers with Routine Responsibilities Tutoring in Reading Required	Independent Study or Planning Professional Staff Available as Needed

Objectives and Goals

The objective of the Livingston University PBTE program in elementary education is to develop elementary teachers who possess the following characteristics and demonstrate proficiency in their use with children in the public school classroom prior to receiving certification:

1. Personal Effectiveness Skills
   a) Nurtures the self-image of children
   b) Uses teaching strategies which requires purposeful involvement and participation of the learner
   c) Cooperates and communicates freely and openly with other professionals
   d) Meets needs of various cultural sub-groups
   e) Provides for learning differences among pupils
2. Assessment Skills
   a) Determines individual pupil needs
   b) Selects and uses appropriate diagnostic instruments
   c) Is proficient in developing objective tests
   d) Is proficient in developing subjective tests
   e) Is proficient in evaluating pupil progress based upon individual learner's progress
3. Instructional Planning Skills
   a) Defines learning objectives for learners in terms of the learner's behavior
   b) Provides sequenced learning activities based upon the individual pupil's prior learning
   c) Demonstrates a broad knowledge base relative to the total school curriculum

d) Provides appropriate practice for independent learning

e) Demonstrates competence to develop career awareness for learners

4. Instructional Management Skills

a) Demonstrates skill in grouping for optimum learning opportunities

b) Selects appropriate media for maximizing the learning process

c) Demonstrates skills which encourage pupils to develop self-responsibility for learning and self discipline

d) Utilizes innovative and creative teaching strategies and materials to improve learning opportunities

e) Is proficient in tracking and record keeping procedures

5. Interaction Skills

a) Provides pupils with both verbal and non-verbal responses

b) Maintains an appropriate balance between Teacher-Talk and Pupil-Talk

c) Demonstrates an effective questioning technique which sustains a high level of motivation and inquiry

d) Demonstrates a genuine concern for pupils by nurturing the home-school relationship

e) Through planned pupil activities for learning, the teacher trainee demonstrates the philosophy that school should represent the real-life situation and prepare learners to function in the real world.

These five skill clusters represent those teacher behaviors considered by the elementary education staff to be prerequisite to effective teaching. The goal is to provide appropriate experiences for each individual trainee through the laboratory-practicum and interaction with college and public school professional personnel which will enable the trainee to develop proficiency in each.

Evaluation

In 1975 to 1976 a study was designed to evaluate the program. It purported to compare the self-perceived first year classroom performance of teachers trained in the PBTE program with the first year classroom performance of teachers trained in the TTE program at Livingston University. The intent was to determine if there was significant difference between self-perceived performance of the two groups on the specified instructional task identified previously under program objectives. The instrument used for data collection was a five point rating scale. It was mailed to all elementary education graduates of Livingston University for a ten year period which included the two five-year periods immediately prior to and after the introduction of PBTE. There were 186 graduates in the PBTE population and 176 in the TTE population. The percentages of returns for the two groups were 54 and 53 respectively.

A univariate analysis of the mean scores of the two groups on the total scale and the sub-scale clusters revealed that there were significant differences between the two groups on all of the cluster at the .01 level of confidence with the exception of one. The analysis of scores in the instructional management cluster did

not show a statistically significant difference. The analysis further showed that the two groups varied significantly from each other on their total scale mean scores at the .01 confidence level. The hypothesis, having used the null hypothesis, was rejected since the analysis indicated that the two groups varied markedly.

In order to determine further the degree to which the PBTE and the TTE groups varied on each of the criterion variables within the five clusters univariate F tests were computed. The two groups varied significantly on 10 of the 25 variables at the .05 level of confidence. An examination of the data also revealed that the mean self-rating of the PBTE group on each of the 25 instructional tasks was higher than that of the TTE group. The Cattell Similarity Index was applied to both the PBTE and the TTE group raw score means of cluster scores as profile elements. The Index of Pattern Similarity Coefficient of -.825 supported the findings that the two groups were significantly different (.01 level of probability.)

The findings of the study seem to provide substantial support for the performance based teacher education program at Livingston University within the context of teacher self-perceptions.

Other colleges or universities engaged in the preparation of teachers and considering a change toward performance based instructional processes should consider the finding of this study for possible use in program development and evaluation.

Personnel Involved

The PBTE concept, as it is deployed at Livingston University, requires a total commitment on the part of each member of the

elementary education staff. In addition to instructional responsibilities both on campus and the practicum sites, many hours of professorial time is devoted to planning, revising, and evaluating. The internal personnel responsible for this program are as follows:

Name	Highest Degree Attained	Major and Minor Fields	Total Years Experience In Field	Years at This College	Years In Public Schools
F. Wayne Smith	Ed.D.	Elem. Ed. Administration	19	10	7
Marion F. Nissen	Ph.D.	Elem. Ed. Geography	16	8	3
Aver S. Rumley	M.Ed.	Elementary Education	35	19	16
Katherine A. Johnston (retired)	M.A.	Elementary Education	35	23	11
Haywood Mayton	ABD	Elem. Ed. Early Childhood Education	6	3	2
Jerry T. Aldridge	Ed.D.	Special Ed. Elem. Ed. Early Ch. Ed.	6	1	5
Ann G. Hill	Ed.D.	Curriculum Psychology	22	8	13
D.P. Kudlawiec	Ed.D.	Music Education	15	10	0
Hortense Hester	P.E.D.	Physical Ed. Measurement & Evaluation	23	12	3
Annette Mitchell	M.A.	Painting Graphics	10	8	2

External personnel involved in the program consists of principals and teachers of the public schools in a 50 mile radius of the Livingston University campus. The major participating schools are:

1. Westside Elementary . . . . . Demopolis, Alabama City Schools
2. Livingston Elementary . . . . Sumter County Alabama Schools
3. Linden Elementary . . . . . Linden, Alabama City Schools
4. Thomasville Elementary. . . . Thomasville, Alabama City Schools
5. Butler Elementary . . . . . Choctaw County Alabama Schools
6. Crestwood Elementary. . . . . Meridian, Mississippi Independent Schools
7. Poplar Springs Elementary . . Meridian, Mississippi Independent Schools
8. Oakland Heights Elementary. . Meridian, Mississippi Independent Schools
9. Northeast Elementary. . . . . Lauderdale County Mississippi Schools
10. Joe M. Gillmore Elementary. . Clarke County Alabama Schools

The individuals are too numerous to name but without them and their cooperation there could be no PBTE program at Livingston University.

Budget 1978-79

	Direct State Funding	Federal Funds	Student Fees	Total
Salaries	86,950	18,065		105,015
Office Expenses	860			860
Instructional Supplies	1,802		1,300	3,102
Travel	870	430		1,300
TOTAL	90,482	18,495	1,300	110,277

In addition to the above funding categories, travel funds for clinical experiences in public schools are available through another budget source. Also, the Division of Elementary Education has a

specific allocation of $1,068 for book requests through the university central library. The College of Education maintains an adequate media center which is designed to support PBTE with book collections, films, filmstrips, and many other vital instructional media including projection and recording equipment. The budget for the media center operation is approximately $8,500 per year for instructional hardware and software.

Contribution to Teacher Education

Students learn more easily in an atmosphere that is oriented toward a recognition of their personal worth and their developmental level; in a situation in which their learning is guided and in a situation in which they are assisted in remedying their deficiences. Teachers must assume varied roles and demonstrate versatility in the assumption of roles. Teacher must be competent in evaluation and utilize appropriate teaching media. They must stimulate and maintain motivation, guide learning activities and have skill in management of routine activities. They must be skillful in interpersonal relations and skillful in diagnosing learning deficiences and providing appropriate remedial activities.

Prospective teachers need clinical and laboratory experiences and extensive practicums in which to develop, demonstrate, and test teaching and learning skill. They need an atmosphere in which they can develop interpersonal relationships that is sequential in the assumption of responsibility and where constructive criticism leads to continual self-analysis for continued improvement.

The Division of Elementary Education believes the PBTE program provides the student with the appropriate experiences based upon feedback from former students, professional practitioners

in the field, and prospective employers. In this day of a so-called over supply of teachers, therehave been no graduates of the Livingston University PBTE program in elementary education who have been unable to find employment in their field of specialization. The research reported in this presentation supports and enhances this faculty's commitment of Performance Based Teacher Education.

Many colleges and universities throughout the nation have in the past and continue to write for information about our program and come to our campus to observe the program in operation. We believe that our program, being one of the pioneers in PBTE development; has made a significant contribution to the improvement of teacher education.

APPENDIX A

Laboratory Calendar

LIVINGSTON UNIVERSITY
COLLEGE OF EDUCATION

Fall Quarter, 1978
Elementary Education
Laboratory, Block I
Education 3143, 10 quarter hours

Schedule:
1:00 - 3:00 p.m. Monday, Wednesday, Friday - Campus
8:15 - 3:00 p.m.; Tuesday & Thursday Public Schools Experience

SEPTEMBER

Thursday, 21
1:00 - 2:00 Introduction and Organization — Total Staff: Smith, Nissen, Rumley, Mayton, Aldridge

1. Distribution and Discussion of Schedule
2. Notebook
   - A. Professional Reading - Assignment 5-8 Articles Relative to Elementary Education in General, Use Professional Magazines (read at least one article on each of the listed topics and report on one article from E.R.I.C.; summarize assignments on index cards.)
     1. Discipline
     2. Professional Ethics
     3. Humanizing Elementary Education
   - B. Technical Skills and other films
   - C. Language Arts Assignment
   - D. Arithmetic Assignment
   - E. Bulletin Board and chart ideas
   - F. Miscellaneous Resource Materials
3. Textbooks ($20 fee)
4. Field Experience - Tentative Plans
5. Bulletin Board Committees
6. Picture File (Quality not Quantity)
7. Discussion of Opportunities to do Independent Work
8. Discussion of Professional Growth and Evaluation Criteria
9. Discussion of AV check out

2:00 - 3:00 Music Activities - Rumley

Friday, 22
1:00 - 3:00 Introduce Technical Skills - Mayton
- A. Distribute Technical Skills Handout
- B. Film Presentation of Micro-Teaching
- C. Film Example of Technical Skills

Monday, 25
1:00 - 3:00 View Micro-Teaching Tapes
Introduction to Behavioral Objectives - Mayton

Tuesday, 26
1:00 - 3:00 Establish car pools for field experiences
Behavioral Objective - Mayton

Wednesday, 27
1:00 - 3:00 Distribution of Arithmetic Assignment
Bulletin Board and Letter Cutting - Rumley and Nissen

Thursday, 28 8:00 - 12:00	Initial Practice on Micro-Teaching (time to be arranged by groups)
1:00 - 3:00	Manuscript Writing - Rumley and Aldridge
Friday, 29	Cursive Writing - Rumley and Aldridge

OCTOBER

Monday, 2	Seminar on Professional Reading One article on each - Discipline, Humanizing Elementary Education, Professional Ethics One article from E.R.I.C. - others free choice Four groups - Staff Check on notebooks
Tuesday, 3	Music and Art - Rumley and Nissen
Wednesday, 4	Music and Art - Rumley and Nissen
Thursday, 5	Field Trip - Staff (Vance & Flatwoods)
Friday, 6	Independent Study
Monday, 9	Arithmetic - Mayton and Nissen
Tuesday, 10	Field (first day)
Wednesday, 11	Arithmetic - Nissen and Mayton Set up groups
Thursday, 12	Field
Friday, 13	Independent Study
Monday, 16	Arithmetic - Mayton and Nissen
Tuesday, 17	Field
Wednesday, 18	Arithmetic - Mayton and Nissen (First presentation)
Thursday, 19	Field
Friday, 20	Independent Study
Monday, 23	Arithmetic - Nissen and Mayton (Critique of first group presentation))
Tuesday, 24	Field
Wednesday, 25	2nd Arithmetic Presentation - Mayton and Nissen
Thursday, 26	Field
Friday, 27	Independent Study
Monday, 30	Arithmetic - Nissen and Mayton (Critique of 2nd Group Presentation) (Exam on chapter)

Tuesday, 31	Field

NOVEMBER

Wednesday, 1	3rd Arithmetic Presentation - Nissen and Mayton
Thursday, 2	Field
Friday, 3	Independent Study
Monday, 6	Arithmetic - Nissen and Mayton (Critique of 3rd Arithmetic Presentation)
Tuesday, 7	Field
Wednesday, 8	Mid-Term Evaluation
Thursday, 9	Field
Friday, 10	Independent Study
Monday, 13	Language Arts Overview - Rumley and Smith
Tuesday, 14	Field
Wednesday, 15	Language Arts - Rumley and Smith
Thursday, 16	Field (Last day)
Friday, 17	Independent Study
Monday, 20	Language Arts - Smith and Rumley
Tuesday, 21	Language Arts - Smith and Rumley
Wednesday, 22	Thanksgiving Holiday 12:00 noon
Thursday, 23	Thanksgiving Holiday
Friday, 24	Thanksgiving Holiday
Monday, 27	Language Arts - Smith and Rumley
Tuesday, 28	Presentation
Wednesday, 29	Presentation
Thursday, 30	Presentation

DECEMBER

Friday, 1	Open

EXAMINATIONS December 4 - 8

APPENDIX B

Laboratory Modules

COLLEGE OF EDUCATION
Livingston University

Social Studies Assignments
Elementary Education Laboratory
Education 3142

Summer 1978

I. Social Studies Area of Study
   A. Geography
   B. History
   C. Economics

II. Related Areas
   A. sociology
   B. anthropology
   C. philosophy
   D. religion
   E. social psychology
   F. art
   G. music
   H. science
   I. literature

III. Readings
Assigned Reading

Read Sections one and two and examine appendix A and B in Alabama Course of Study: Social Studies, Bulletin No. 5, 1975.

Read - Herborig, M. and Klausmeir, H. Teaching in the Elementary School, Fourth Edition, Harper and Row, 1974. Chapter 10, pp. 311-356.

*Suggested Reading
(See Bibliography) See last 2 pages.

IV. Plan of work
   A. Each group will be assigned one of the 3 topics found in section I (geography, history, economics.) Each group will be responsible for presenting a unit of work on the early primary (K-2), middle (3-4), and intermediate (5-6) levels on their topic.. Whenever possible topics found under section II should be correlated and incorporated with the group topic.

   B. Format

      1. Overview. The overview is a summary of the topic (geography, history, or economics) and level (early primary, middle, intermediate.) It should refer to the key concepts and generalizations contained on topic and level.

      2. Purpose. This section tells why this topic is important to the educational development of the pupils. (Total group effort.)

      3. Instructional Objective

      4. Set Induction (What will you, as the teacher, do to stimulate the pupil's curiosity and awaken his/her inquiry senses?)

5. Stimulus Variation or Lesson Plans: (Materials and activities to be used by the teacher and by the pupils - What the teacher will do and the material he/she will use - What the pupils will do and the materials they will use.)

6. Closure and Evaluation: (Each lesson or activity should be followed by some type of evaluative process.) This may be conducted through one of the following types of activities:
   1) written examination
   2) oral summary
   3) creative writing activity
   4) art activity
   5) etc.

7. Concluding and culminating activities. (Total group planning.) Culminating activities are suggested for summarizing and evaluating the over-all unit of instruction, e.g., a play, pageant, program, exhibit, or quiz program.

8. Bibliography. This section includes a list of available instruction materials for students, background references for teacher, community resources, current materials, audio-visual resources, and other instructional materials.

9. Handouts prepared by each group will be made on spirit masters and distributed to the class.

10. Hand-outs are to be given to the secretary at least three days before they are needed.

11. Read and critique on 3x5 index cards two sources marked with an asterisk.

BIBLIOGRAPHY FOR TEACHING SOCIAL STUDIES IN ELEMENTARY SCHOOL

Reading:

Alabama Course of Study. Grades 1-6. State Board of Education 1966. (of Education)

Alabama Course of Study-Social Studies bulletin #5, '75-AL Dept.

Chase, Linwood W., and John, Martha Tyler. A Guide for the Elementary Social Studies Teacher. Second edition, 1972. Allyn-Bacon, Inc.

Carin, Arthur A. and Sund, Robert B. Developing Questioning Techniques: A Self-Concept Approach. 1971. Charles E. Merrill Company.

Goldmark, Bernice. Social Studies - A Method of Inquiry, 1968 Wadsworth Publishing Company.

Hanna, Potter, Hagaman. Unit Teaching in the Elementary School, Revised Edition, Holt, Rinehart & Winston, 1963.

* Jarolimek, John, Social Studies in Elementary Education, Third Edition, 1967, or Fourth Edition, 1971. Macmillan Company.

* Michaelis, John U. Social Studies for Children in a Democracy. Fifth Edition, Prentice-Hall, Inc., 1972.

Nerbovig, Marcella H. Unit Planning A Model for Curriculum Development, Charles A. Jones Publishing Co., 1970.

Preston, Ralph, and Herman, Wayne L., Teaching Social Studies in the Elementary School, Fourth Edition, 1974. Holt, Rinehart and Winston, Inc.

Ragan, William B. and McAulay, Social Studies for Today's Children, 1964, Appleton-Century Crafts.

Skeel, Dorothy J. The Challenge of Teaching Social Studies in the Elementary School, 1970, Goodyear Publishing Co., Inc.

Smith, James A. Creative Teaching of the Social Studies in the Elementary School, Allyn-Bacon, Inc.

Thomas, Murray R. and Brubaker, Dale L. Decisions in Teaching Elementary Social Studies, 1971. Wadsworth Publ. Co.

Wesley, Edgar Bruce. Teaching Social Studies in Elementary School, 1968, D.C. Heath and Company.

Films and Filmstrips:

"Planning a Unit of Work" - Filmstrip - Professional Education Bel Mort Film

"Making Learning More Meaningful" - Unit in Elementary Arithmetic - McGraw-Hill No. F-103.

"Effective Learning in Elementary School" - A Unit of Pioneer Life - Fifth Grade, No. F-203.

"Social Studies Teaching Techniques" - A Teacher Planning and Carrying out a Unit of Work with a Sixth Grade Class. Bailey Film No. F-346.

"Teaching Reading Skills in Social Studies" (Showing planning and carrying out plans for units in primary, intermediate and junior high levels.) Bailey Film No. F. 347.

"They All Learn to Read" - A Unit on Indian Life being taught in a Grade. International Film Co., No. F. 102.

LIVINGSTON UNIVERSITY
COLLEGE OF EDUCATION

Science Assignment
Elementary Education Lab

I. Behavioral Objective: Groups of elementary education students in consultation with designated instructors, will develop a resource unit for science. The students will demonstrate in a simulated situation how they will use materials from this resource unit to teach science concepts to elementary school pupils at their various stages of development. The students will demonstrate proficiency in the discovery and inquiry techniques as they do their simulated instruction.

II. Purpose: In developing learning activities for children the university student must be aware of the major generalizations relating to science concepts to be taught in the elementary school; be aware of the developmental characteristics of various age groups of children as related to teaching science; be aware of science programs based on the spiral approach; be aware of the discovery methods and problem approaches to teaching; and be aware of ways to make science functional in the child's daily life.

The student must demonstrate knowledge of and ability to implement various methods and processes appropriate to guiding experiences of children in science. In order to meet the needs of individual pupils the university student must have a wide variety of materials and activities from which to draw.

III. Learning Activities

A. The university student can read from the materials listed below.

B. The university student can arrange to see the 16mm films or the filmstrips listed below.

C. The university student may attend a seminar on the theoretical basis for teaching science in elementary school.

D. The university student can explore various trade books, some of which are listed in the bibliography.

E. The university student can observe classroom teachers teach science.

F. The university student can explore the science kits in the Elementary Education materials room.

G. Free choice.

IV. Resources

A. Reading:

1. The objectives in Elementary School Science (Blough Chapter 3)

2. Helping Children Learn Science (Blough Chapter 3)
Children and Science (Craig Chapter 1)
The Nature of Science and Its Implications of the Education of Children (Craig Chpater 3)

3. Organizing the Science Program (Blough Chapter 4)
   The Subject Matter of Experience (Craig Chapter 4)
   Utilizing the Community Wisely in Teaching and Learning Science
   (Craig Chapter 6)

4. Teaching Science Through the Discovery, Problem or Inquiry Approaches
   Teacher Responsibilities in a Discovery Centered Science Program
   (Ragan Chapter 7)

5. Effective Approaches to Elementary School Science

   These approaches are dealt with in Blough and Craig also.

NOTE It is not necessary to read all the above chapters but from examination of the Chapter headings, note the emphasis is on understanding children in relation to science objectives, materials, activities, experiments and approaches used to teach science and evaluation of science programs in the elementary school.

B. View at least 2 or 3 Blough films that are not used in class. These films are listed in the bibliography.

Anderson, DeVito, Dyrili, Kellogg and Others. Developing Children's Thinking Through Science. Prentice-Hall, 1970. (Each chapter has performance objectives).

* Blough, Glenn O. and Schwartz, Julius. Elementary School Science and How to Teach It. Fourth Edition, 1969. Holt, Rinehart, & Winston.

Blough, Glenn O. and Campbell, Marjorie H. Making and Using Classroom Science Materials in the Elementary School. The Dryden Press, Inc., 1954.

* Craig, Gerald S. Science for the Elementary School Teacher. New Edition. Ginn & Co., New York, 1962.

Gega, Peter C., Science in Elementary Education. Wiley Co., New York, 1966.

Hone, Elizabeth B., Alexander, Joseph and Victor, Edward. A Sourcebook for Elementary Science. Harcourt.

Lewis, June E., and Potter, Irene C. The Teaching of Science in Elementary School. Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1961.

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Parker, Bertha Morris. Science Experiences in Elementary School. Row and Peterson, Evanston, Illinois, 1952.

* Renner, John W. and Ragan, William B. Teaching Science in the Elementary School. Harper & Row, 1968.

Schmidt, Victor E., and Rockcastle, Verne N. Teaching Science with Everyday Things. McGraw-Hill, 1968.

Thaw, Richard J. and Morlan, John E. Experiences and Demonstrations in Elementary Physical Science. William C. Brown & Co. Dubuque, Iowa, 1964.

Thier, Herbert D. Teaching Elementary School Science, A Laboratory Approach. D. C. Hunt & Co., 1970.

Victor, Edward. Science for the Elementary School. Macmillan Co., New York, 1965

Victor, Edward and Lerner, Majorie S., Readings in Science Education for the Elementary School. Macmillan Company, New York, 1967.

Williams, Davis L., and Herman, Wayne L., Jr. Current Research in Elementary School Science. Macmillan Co., 1971.

* Textbooks for the Course.

Films: Teaching Science in Elementary School Series (Blough)

1. General Objectives, Film No. 281 (Curriculum Lab)
2. Setting the State for Learning, Film No. 276 (Curriculum Lab)
3. Teaching Techniques, Film No. 279 (Curriculum Lab)
4. Science and Language Arts, Film No. 280 (Curriculum Lab)
5. Field Trips for Discovery, Film No. 277 (Curriculum Lab)

Micro-Teaching Elementary Series - Technical Skills

Asking Probing Question, No. 320 T12E (Curriculum Lab)
Use of Examples

Filmstrips for Children - Science Curriculum Laboratory

Science Kits (See Instructor)

Children's books on science.

Textbooks and trade books (Curriculum Laboratory)

ELEMENTARY EDUCATION LABORATORY
Education 3143
Arithmetic Assignment · Fall, 1978

I. OBJECTIVE -
Each student in the Elementary Education Laboratory will demonstrate his understanding of the importance of teaching the various facets of arithmetic in elementary school through the following activities:
(1) Participating in class discussion of principles and practices of teaching arithmetic in the classroom. Grades 1-6.
(2) Explaining (orally or in writing) the arithmetic curriculum as set forth in the Alabama Course of Study. Grades 1-6
(3) Presenting in class selected arithmetic learning activities and giving the rationale for using such. Criteria for presentation is in this guide.
(4) Participating in small groups to determine some priorities in teaching arithmetic and some guides for creating a classroom environment which would enrich an arithmetic program.
(5) Teaching arithmetic concepts to real children or to his university peers in a simulated situation.

II. OBJECTIVE - The student will demonstrate proficiency in elementary school arithmetic computational skills and problem solving ability by achieving a minimum of 90% accuracy on either a pre or post test administered by the laboratory staff.

III. PURPOSE - In developing a program of learning for children the university student must be aware of the major generalizations relating to number concepts and their development; be aware of the developmental characteristics of various age groups of children as related to teaching arithmetic; be aware of arithmetic programs based on the spiral approach and be aware of the discovery methods, and be aware of ways to make arithmetic functional in the child's daily life. He must demonstrate knowledge and comprehension of methods and processes appropriate to guiding experiences of children in mathematics. In order to meet the needs of individual pupils the university student must have a broad base of knowledge and a wide variety of materials and activities from which to draw.

IV. PERFORMANCE CRITERIA - Prior to demonstration teaching, the student will:
A. Participate in class discussion of the theoretical aspects of teaching mathematics in the elementary school, grades 1-6. The discussion will be based on topics that are covered in Grossnickle, Brueckner, and Reckzeh's Discovering Meaning in Elementary School Mathematics. Fifth Edition, 1968. Holt, Rinehart, and Winston. (Each student should be prepared to discuss a specific topic from the list on the following page.)

The topics are:

1. The Changing Mathematics Program of the Elementary School (Chapter 2)
2. Principles of Teaching and Learning Mathematics (Chapter 3)
3. Sets and Sentences (Chapter 4)
4. Characteristics of Numeration Systems (Chapter 5)
5. Number Systems and Properties (Chapter 6)
6. Mathematics in Kindergarten and Primary Grades (Chapter 7)
7. Patterns for Teaching Basic Facts in Addition & Subtraction (Chapter 8)
8. Patterns for Teaching Basic Facts of Multiplication & Division (Chapter 9)

B. Each student will participate in the development of selected learning activities in conjunction with other group members. Each group's learning activities will be mimeographed for distribution to each member of the Elementary Education Laboratory and faculty.

Organization For Group Projects:

Group I - Fundamental Operations for Whole Numbers — Level I

Addition and Subtraction Facts

1. Sums through ten
2. Doing and undoing operations
3. Commutative property of addition
4. Associative property of addition

Multiplication and Division — Level II

1. Discovers product up to six ones through the use of manipulatives.
2. Combining equal groups, two 2's, three 3's, three 4's, two 3's, etc.
3. Grouping to find two equal parts
   12 = two 6's
   8 = two 4's, etc.
4. Commutative law of multiplication
   (3 x 2 = 2 x 3)

Group II- Measurement — Level III

1. Linear measurement
2. Weight
3. Money
4. Charts and graphs

Number and Numeration — Level IV

1. Decimal Notation
2. Place value
3. Roman numerals
4. Non-decimal notation

Group III-Geometry — Level V

1. Identify and Explore Properties of:
   a. lines
   b. geometric shapes
   c. angles
2. Finding area of geometric shapes
3. Finding perimeter of geometric shapes
4. Developing concept of congruent figures

Group IV- Metrics

1. Introducing the Metric System:
   a. origin
   b. history
   c. present status
2. Presenting the three basic units
3. Use of the six most important prefixes
4. Conversion within the Metric System
5. Use of square and cube in metrics

C. Filmstrips and Films

Series of Films by Universal (Media Center)
Education and Visual Arts
Decimal Numeration System No. 174
Beginning Number Concepts No. 181
Addition and Its Properties No. 180
Division No. 183
Division Algorithms No. 177
Multiplication Algorithms No. 177
Multiplication And Its Properties No. 178
Subtraction No. 179

Filmstrips for Elementary Math
Popular Science Publishing Co.
(Four boxes - eight filmstrips to a box)
They deal with:
Place Value
Introduction to Numbers
Renaming Numbers
Fractional Parts
Properties of Numbers
Expanding Numbers, etc.

Modern Arithmetic Series Filmstrips Series by McGraw-Hill
Series 1 - Grades 1-2

Problem Solving — Level VI

1. Visualizing problems (pictures)
2. Relating operations to problem solving in terms of known facts
3. Use of equations or mathematical sentences
4. Using word sentences to describe relationships and estimating answers before solving problems

C. 1. Criteria for Individual Presentation
   a. Time limit - ten minutes
   b. Appropriateness of the activity to the learning situation and for the maturity level of the child
   c. Variety of activities used
   d. Use of visual aids
   e. Manner of presentation

2. Criteria for written activities
   Each student will carefully select two meaningful learning activities from his assigned topic and prepare them for class distribution using the outline suggested in section 2 below. Get stencils from the secretary in the Elementary Education office. Give prepared material to the secretary at least two days before presentation so that she can run off mimeographed copies.

3. The format for each learning activity should follow the outline below:
   a. Name
   b. Topic
   c. Instructional objective
   d. Concise and clear directions for the activity (a sketch or diagram could be of value)
   e. List materials to be used
   f. Bibliography (list in alphabetical order by last name of the author)

4. A critique will follow each presentation relating to the concept being developed. The student making the presentation, his peers, and the instructor will discuss the following:
   a) The justification of the presentation in terms of principles of learning, motivation, pupil involvement, materials used, etc.
   b) Problems involved in developing pupil understanding of the mathematical concepts.
   c) Ways to follow up activities in other units and everyday experiences to help pupils apply the concepts to real life situations.

V. Learning Activities
   A. The student can read from the materials listed on next page.
   B. The student will participate in class discussions on the theoretical basis for teaching arithmetic in the elementary school.
   C. The student can explore various trade books some of which are listed on the next page.
   D. The student will explore the state adopted text books for the grade level at which he is teaching.
   E. The student will explore arithmetic in the Alabama Course of Study.

VI. RESOURCES

A. Reading

Grossnickle, Brueckner, Reckzeh. Discovering Meaning in Elementary School Mathematics. Fifth Edition. Holt, Rinehart and Winston, 1968. (Basic Text)

Alabama Course of Study. Grades 1-6, 1966

Hollister, Gunderson. Teaching Arithmetic in the Primary Grades. D. C. Heath, 1964.

Howard-Dumas. Basic Procedures in Teaching Arithmetic. D. C. Heath, 1963.

Merton - May, Lola J. Mathematics Background for the Primary Teacher. John Colburn Associates, Inc. 1966.

Spitzer, Herbert. Teaching Elementary School Mathematics. Houghton-Mifflin Co. 1967.

Westcott, Alvin M. Creative Teaching of Mathematics in the Elementary School. Allyn and Bacon, 1967. (Strongly recommended)

Periodical The Arithmetic Teacher

B. Books to Scan

Teachers Editions of Arithmetic Textbooks used in Elementary Schools.

Hogben, Lancelot. The Wonderful World of Mathematics. Doubleday, 1968.

Children's Books:

A Young Math Book Series
Graphs and Games by Frederique and Papy
Bigger and Smaller by Froman
Estimation by Linn
Odds and Evens by O'Brien
Long, Short, High, Low, Thin, Wide by Russell
Straight Lines, Parallel Lines, Perpendicular Lines by Arno
Fractions Are Parts of Things by Dennis
The Ellipse by Charosh
What is Symmetry? by Emberley
Circles by Sitomer
Weighing and Balancing by Srivastava

Alterman, Hyman. Numbers At Work, Harcourt, Brace and World, 1964

Berkowitz, Big and Little
Up and Down - Young Scott Books, 1960

Carona, Philip B. The True Book of Numbers. Children's Press, 1964

Kenyon, Raymond, I Can Learn About Calculators and Computers, Harper, 1961

Leaf, Munro, Arithmetic Can Be Fun, Lippincott, 1949.

Valens, Evan G. The Number of Things, Dutton, 1964.

ELEMENTARY EDUCATION LABORATORY
Education 3143
Language Arts Assignment - Spring 1978

I. Language Arts Area of Study
   A. Listening and Speaking
   B. Creative Writing and Spelling
   C. Dramatic Expression and Interpretation
   D. Handwriting

II. Instructional Objective:
Each student in the Elementary Education Laboratory should demonstrate his understanding of the importance of teaching the various facets of the language arts in elementary school through the following activities:
   (1) Participating in class discussion of principles and practices of teaching language arts in the classroom. Grades 1-6.
   (2) Explaining (orally and in writing) the language arts curriculum as set forth in the Alabama Course of Study. Grades 1-6 1966.
   (3) Presenting in class selected language arts learning activities and giving the rationale for using each. Criteria for presentation is in this guide.
   (4) Reading and studying professional literature on teaching the language arts.
   (5) Continuing to apply his knowledge of teaching language arts in teacher aide, tutor, and student teaching situations.

III. Reading
Everyone will read background material on teaching language arts in elementary school. Use books from the attached bibliography. Each person will read chapter seven in Teaching in the Elementary School, by Klausmeier. Each lab student will be encouraged to read articles from Language Arts magazine (formerly Elementary English). Publication dates of Language Arts may go back to 1974.

IV. Plan of Work
   A. Each student will carefully select one meaningful learning activity on each area (see Section I) -- one on kindergarten-primary level and one on intermediate level.
   B. The format for each learning activity should follow the outline below:
      1. Your name.
      2. Area and level.
      3. Concise and clear directions for the activity.
      4. List of all materials to be used.
      5. Judgments will be made on quality, relevance, and appropriateness of material.
      6. Compile as a booklet to be handed in on last day of presentation (May 26)
   C. Each person will have approximately 5 minutes to present their activity from the selected area for the given day.
   D. Activity Dates:

APRIL	
Friday, 21	Language Arts Assignments
MAY	
Wednesday, 3	TEST - Chapter 7 of Teaching in the Elementary School, by Klausmeier.

MAY (Continued)

Monday, 8	Mrs. Dorothy Schwartz - Educational Specialist Language and Fine Arts (State Department of Education)
Wednesday, 10	Microteaching critique (1st hour) Language Arts Ideas (2nd hour)
Monday, 15	Area-Listening presentations
Wednesday, 17	Area-Speaking presentations
Monday, 22	Area-Creative Writing presentations
Tuesday, 22	Area-Spelling presentations
Wednesday, 24	Area-Oral Expression presentations
Thursday, 25	Area-Written Expression presentations
Friday, 26	Area-Handwriting presentations (Penmanship) Hand in all presentation materials.

There are records, tapes, and filmstrips in the Curriculum Library that will be helpful in teaching Language Arts.

*Note

Materials not listed on Bibliography:
- Magic Moments
- Encyclopedia Britannica
- Five boxes of four tapes each to stimulate speaking and creative writing. (in Mr. Ptomey's office)
- Peabody Kits (Education Suite)
- Spice Series (Education Suite)

Also:
Write to Communicate: The Language Arts in Process (3 and 5)
(Kits - Reader's Digest Educational Division) Education Suite
Write On! 50 writing activities for students (Education Suite)